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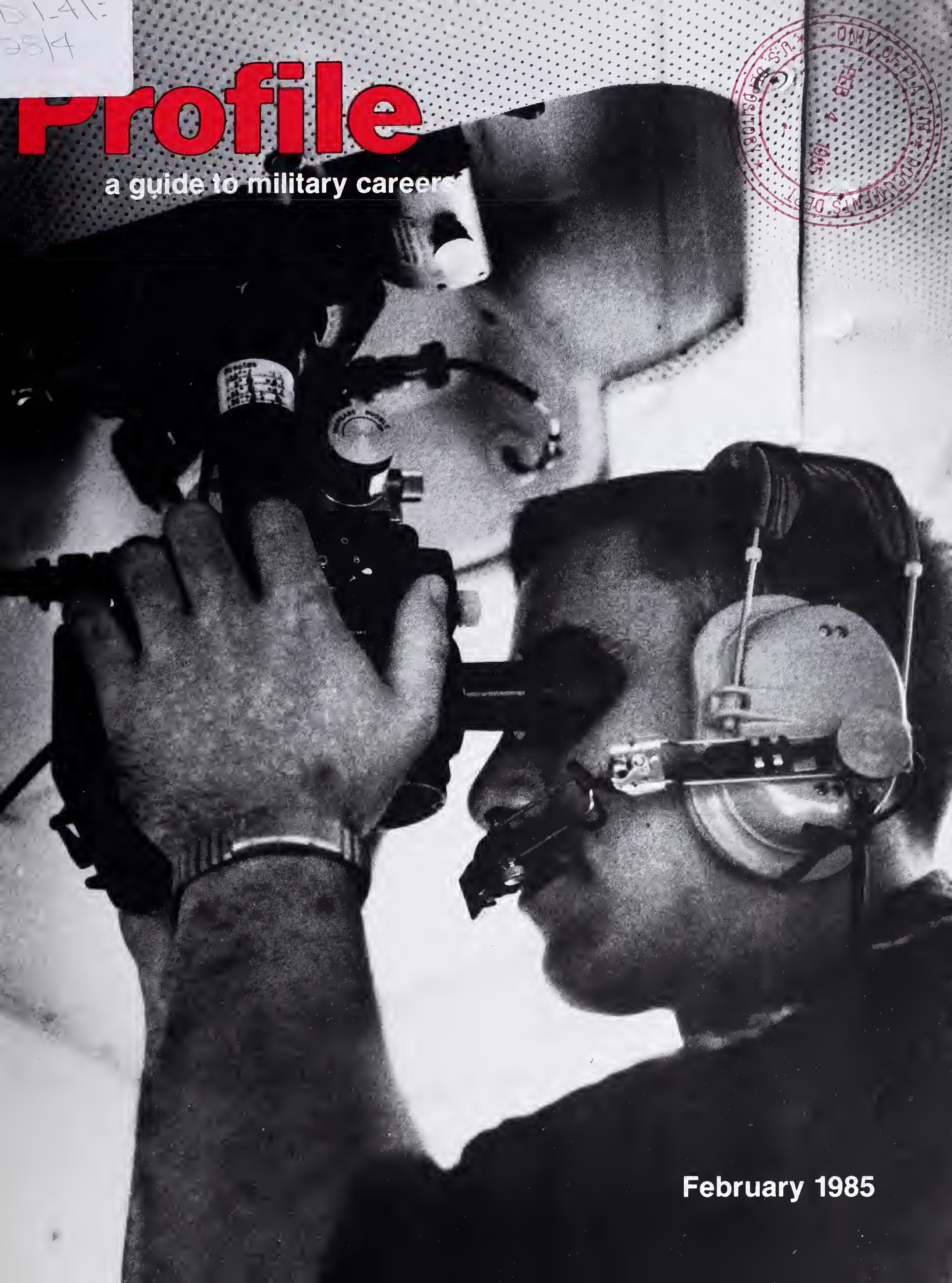

Profile

a guide to military careers

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February 1985

The Coast Guard's newest division, the Surface Effect Ship Division, will be featured in the March issue of PROFILE. This division is responsible for drug interdiction as well as rescuing persons in distress on the high seas. Also included will be stories on the Army's Criminal Investigative Division, Marine Corps field wiremen, Navy gas turbine systems mechanics and Air Force loadmasters.

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FLARE

4 Star drivers
7 Newsbriefs
8 Quartermaster at the helm
10 Tidbits and technology
11 Gyms shape up
12 Fire one! Fire two!
14 Officer candidate
16 Guarding the gates
18 Making motors hum
20 'Ello Mate! Welcome to England!
22 Lights, camera, ACTION!

About the covers

Front: Cpl. Ralph Seymour, an enlisted Marine Corps navigator, adjusts his periscopic sextant prior to performing a navigating routine. Seymour, a First Navigator, uses both celestial and electronic equipment to navigate Marine Corps C-130 aircraft. (Photo by Dave Marriott)

Back: Torpedoman's Mate Seaman Apprentice Susan Moore makes an adjustment to a torpedo mechanism during technical school training at Orlando Naval Air Station, Fla. (Photo by Linda L. Mitchell)

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STAR DRIVERS

story and photos by Dave Marriott

Man mastered the art of navigating by the position of heavenly bodies (celestial navigation) centuries ago. And it's good he did, for without it, many of our greatest discoveries and accomplishments may never have occurred.

Christopher Columbus might never have discovered the New World, or proved the existing world was round. Ferdinand Magellan and his crew may have lost their direction somewhere between Europe and South America, never to be heard from again. And it is doubtful if Charles Lindbergh, piloting the Spirit of Saint Louis, would have completed the first solo, transatlantic, flight.

Since the introduction of modern navigation aids in the early decades of the 20th century, the words celestial navigation seem ancient or out-of-place when they appear in text, or arise in conversation. But, even though it may seem an old and outdated method, many navigators study and practice celestial navigation today.

"Sometimes I get a look of disbelief when I tell people my primary method of navigation is celestial," said Gunnery Sgt. Mike Clarke, a first navigator and the noncommissioned officer-in-charge of the Navigation Section at Marine Aerial Refueler and Transport Squadron-252, Marine Corps Air Station, Cherry Point, N.C. "I guess people don't realize that, on many modern aircraft equipped with electronic navigation gear, the navigator still plots and tracks the aircraft's course celestially.

"The Hercules C-130, the only aircraft Marine enlisted navigators crew, is one of these," he added.

Prior to each mission, navigators file a flight plan.

"We draw the initial navigation chart as soon as we receive our destinations," Clarke said. "Three hours before take-off, we pick up the current weather forecast and add the winds and weather. We also plot an alternate flight path and destination, in case the weather turns bad, or the original landing point gets fogged in.

"Once we have both the primary and alternate flight paths and landing destinations, we use a fuel graph to compute our fuel requirement," he continued. "The fuel graph gives us a burn rate (the amount of fuel used) for the total weight of the aircraft. Multiplying the burn rate by the flight length gives us the amount of fuel needed for the mission."

> *"This is an ideal job for an intelligent young man straight out of high school. The job is unique, challenging and loaded with responsibility. I've got 20-year-old corporals working for me that are doing the same job as lieutenants and captains in our sister services."*

Navigators use the Air Almanac, navigation charts, a periscopic sextant, and a variety of geometric tools while navigating celestially.

"Regardless of whether it's day or night, celestial navigation changes little," Clarke said. "The difference between navigating during the day and navigating during the night is the length of routine. We perform a 30-minute routine during the day, and a 40-minute routine at night.

"A routine consists of dialing coordinates and degrees into the periscopic sextant, shooting (looking at) the sun or a star, and from the sun's or star's location, plotting the aircraft's position on the flight chart," he continued. "Prior to dialing information into the sextant, we make several calculations using information extracted from the Air Almanac.

Cpl. Ralph Seymour uses a periscopic sextant to "shoot" a star while performing a 30-minute routine.

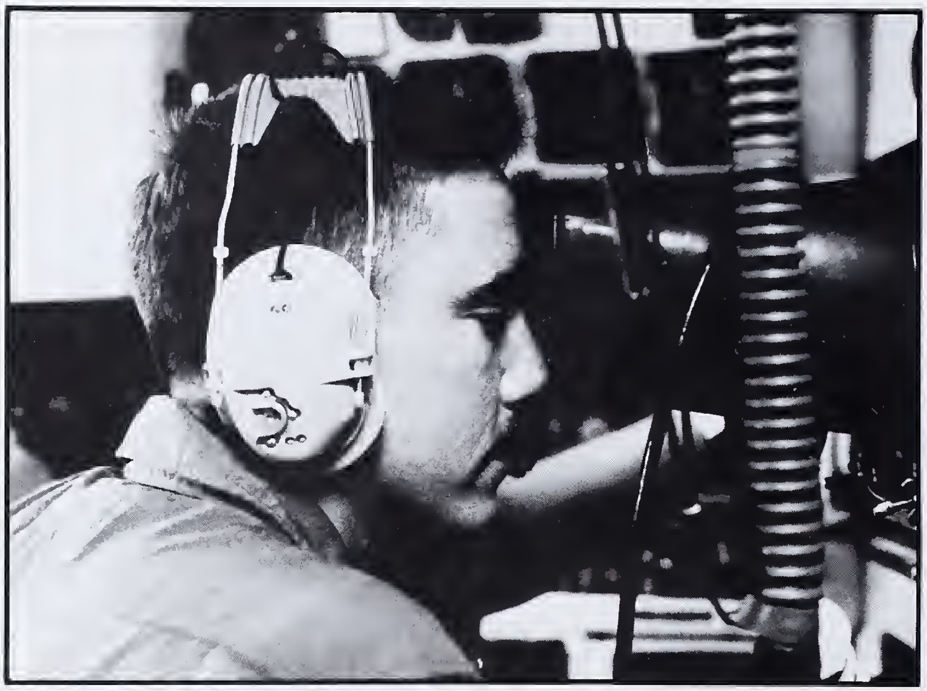
"The calculations are so complicated, I won't even try to explain them," laughed Clarke. "My theory is the celestial wizard that figured this stuff out hundreds of years ago, didn't want anyone else to understand it."

The Marine Corps' navigator training program is one of the longest and toughest in the service.

Before being accepted to the Marine Aerial Navigator Course at Mather Air Force Base, Sacramento, Calif., an individual must be a first class swimmer, pass a flight physical, and have a secret security clearance. After meeting these requirements, he reports to Mather to attend a one-week screening school.

"The screening course is tough," Clarke said. "It's like a mini-course in navigation. The instructors teach basic navigation skills, navigation terms, and how to prepare a navigation chart. At the end of the week they give students a chart and a situation. To pass the exam, students must plot a course according to the situation, and arrive at the correct destination. In a screening class of 20, maybe eight or 10 will pass.

"Those who pass the screening, attend the six-month formal school," he continued. "It covers the same subjects as the screening, except the training is more detailed. And, the attrition rate doesn't change either. Although it fluctuates, it stays



STAR DRIVERS

Marine Corps enlisted navigators use a variety of instruments to keep their C-130 aircraft on course, both over land and water. (Left) Cpl. Ralph Seymour, a First Navigator with Marine Aerial Refueler and Transport Squadron-252 takes a reading off a Loran Box. (Below) After taking a reading, navigators plot the aircraft's position on a flight chart. This allows them to make corrections if winds or weather have forced them off course.

right around 50 percent."

Where most training ends upon school completion, the navigator's is just the beginning.

"A Marine is designated as a second navigator and issued his wings when he graduates from Mather," Clarke said. "But, he remains in a student status until he masters radio, geographic and celestial navigation. This takes between 800 to 1,000 flight hours, or 12 to 18 months."

The difference between the duties of a first and second navigator is the flights they navigate, and the equipment they use.

"A first navigator navigates across land and water, using both celestial and electronic navigation methods," Clarke said. "Whereas, a second navigator only navigates across water, or uses electronic navigation gear, while under the instruction of a first navigator. And, the only flights a second navigator navigates solo are those across land.

"We put a heck-of-a responsibility on these young men," he continued. "They are directly responsible for a multi-million dollar aircraft, a five-man crew, plus any cargo or passengers on board. That's why they go through such a long training period with people looking over their shoulders."

Some of the navigator's additional duties include preflighting the navigation equipment, ensuring the crew has the proper passports and shots to clear customs in foreign countries, and directing both their aircraft and others during aerial refueling operations.

"Navigating has to be one of the best jobs in the Marine Corps," Clarke said. "It combines responsibility, travel and excitement.

"In fact," he laughed, "it involves so much travel, my wife accuses me of coming home just long enough to wash my dirty laundry, then leave again.

"But, that's an exaggeration," Clarke concluded. "We might fly once a week, or 30 times a month. It all depends on the squadron's missions and commitments."

newsbriefs

Army tests air defense systems

The Army's 9th Infantry Division at Yakima Firing Center in Washington, has test-fired two prototype air defense systems—the Avenger and Excalibur.

The Avenger, which can be either vehicle or ground mounted, fires the Stinger heat seeking missile. The system also has a turret stabilization system which allows on-the-move firing capability.

The Excaliber is a high-speed, all-terrain carrier with a modified 20mm Vulcan cannon. During the testing, it hit radio-controlled aerial and ground targets while moving cross-country. More tests are scheduled on both systems.

Salvage ship launched

The Navy recently launched the Salvor, the third of four new Safe-guard class salvage ships. She, her sister ships, and three Edenton-class salvage ships will replace the Navy's aged salvage fleet.

Salvor's primary mission will be to provide salvage, diving, repairing, rescue and towing services. The ship is 255 feet long, has a 51-foot beam and displaces 2,825 tons. It is capable of a sustained speed of 14 knots.

Cheap drinks out

You won't find two-for-one or reduced-price alcoholic beverages at Army-sponsored social events or clubs any more. A new policy prohibiting their sale went into effect last year, according to the Army's Adjutant General.

The policy was developed because events featuring reduced-price drinks were inconsistent with Army policies and programs addressing alcohol-related problems. The policy was designed to correct the confusing signals the Army sends by imposing stiff penalties on drunk-driving offenders while encouraging the consumption of alcohol at clubs.

Runway destroyer

The Armament Division at Elgin Air Force Base, Fla., is testing a new bomb capable of penetrating concrete runways and exploding beneath them.

The bomb, the BLU-106/B, carries a number of steel-encased warheads accelerated by rocket motors. Delivered at low altitude, the bomb uses a preselected dispensing pattern to ensure each warhead hits in a different location.

Solar-powered trailer

A solar-powered trailer could provide the answer to producing electricity in isolated areas. The portable trailer, being tested at the Yuma Proving Ground, Ariz., requires minimal maintenance, has no moving parts, and needs only water for its six 3-foot by 4-foot batteries.

The trailer uses silicon photovoltaic panels imbedded with honeycomb cells to capture the sunlight. As the rays pass through the cells, they are converted into direct current and stored in batteries. The charge is then fed into a transformer which changes the full storage of 108 volts of direct current into 117 volts of alternating current. The 117 volts can keep 1,500 100-watt light bulbs burning.

As long as there is sun, the trailer can produce 100 percent capacity. After sundown, it produces at 80 percent capacity for four hours.

Quartermaster

"I must go down to the seas again, to the lonely sea
and the sky,
And all I ask is a tall ship and a star to steer
her by;
And the wheel's kick and the wind's song and the
white sail's shaking,
And a gray mist on the sea's face, and a gray
dawn breaking."
(From "Sea Fever" by John Masefield)

story by Eric Berryman

Scene: The North Sea off Scotland's coast near Cape Wrath.

Officer of the Deck: "Quartermaster, what are your recommendations?"

Quartermaster: "Recommend time to turn. Time 2130. Come to course 090."

Exchanges similar to this take place on U.S. Navy ships worldwide and indicate the high esteem quartermasters command.

The quartermaster must guide his vessel safely from port to port. The lives of hundreds or, on large ships, thousands depend upon his skill. From his lofty station on the bridge, he steers the ship and assists the navigator in the complicated business of calculating their exact position.

Petty Officer 3rd Class Larry Davis Garcia is a member of this elite group. Graduating in the top three percent of his Quartermaster class allowed him assignment selection. He chose the battleship USS Iowa (BB-61).

Relatively junior in the field, Garcia proudly wears the insignia of one of the oldest naval professions. He described navigation in traditional terms as "the art and science that enables the mariner to determine his ship's position and guide it safely from one point to another."

Garcia dwelled on the word "art," because all the sophisticated information systems available are still subject to variations. These must be interpreted by the mind and can't be taught in the classroom.

The sea isn't marked with guide posts to tell a passerby how many miles it is to the next town. There are no median strips nor convenience stores to call from and ask directions.

A quartermaster must read a radar, fathometer and sextant for direction. Knowledge of the special electronic pulses of Loran and Omega tracking stations and the ability to read the latitude and longitude beamed to satellite navigational equipment are essential. He must also use the sun, moon and stars and coordinate the information with his charts. In effect, the quartermaster must know the duties of the Officer of the Deck almost as well as he knows his own.

As a member of the Navigation

Quartermaster 3rd Class Larry Garcia uses a telescopic alidade and the sun to plot the position of the USS Iowa. Bearing readings figured with the telescopic alidade are voice communicated onto the bridge of the ship, where a navigator and assistant navigator translate the readings into positions on a hydrographics map. (Photo by Linda L. Mitchell)

Officer's team, Garcia advises the Officer of the Deck on the presence of rocks and shoals, and other hazards possibly threatening the ship. He also provides detailed information on harbors and anchorages worldwide, and how to enter them safely.

Already one of the most skilled quartermasters on board the USS Iowa, Garcia has been designated a Master Helmsman. He is one of only three men the captain permits to steer the ship into port. He performs other difficult maneuvers demanding absolute accuracy and a cool head.

Steering the ship entails close coordination with the engine room. "The idea," said Garcia, "is to establish crystal clear communications between the bridge and engine personnel producing just the right amount of speed. Ships have no brakes."

Promotion possibilities in the quartermaster field are excellent. However, if Garcia decides to leave the service, his knowledge and experience translates to a comparable civilian position. He will be eligible to take the U.S. Coast Guard examination for a mate's ticket aboard merchant ships. Or, he could start a career as a harbor pilot, become a craft master running tugs and barges, or skipper his own charter boats.

Meanwhile, Garcia is concerned with guiding his ship across the oceans to some of the busiest ports in the world. "I am very fortunate," he said, "to like what I do."

tidbits & technology

Air Force's waste oil fuels monument

Waste oil from Hill Air Force Base, Utah, has been helping the National Park Service keep their only two operating locomotives on track for the past four years.

More than 90,000 gallons of the oil have fueled the Jupiter and No. 119 at the Golden Spike Historic Site near Promontory, Utah, the place the first transcontinental railroad joined in 1869.

The Air Force decided to give the National Park Service its waste oil when it was discovered that recycling the oil was costing more than it was worth.

Way out warranties

It's not widely known, but the Navy had a warranty on the Monitor, the ironclad ship that dueled the Merrimack during the Civil War. The warranty specified that the Monitor had to steam 12 miles at eight knots.

The Navy also had a warranty on the first airplane it bought. The warranty on the Wright Brothers plane said it would fly.

Military presidents

The Air Force, Navy, and Marine Corps have been in many spectacular battles in their history. And leading those battles have been some larger than life heroes. But no Navy admiral or Air Force or Marine Corps general has ever been nominated for the presidency. Only Army generals.

They include: Washington, Jackson, William Henry Harrison, Taylor, Pierce, Grant, Hayes, Garfield, Benjamin Harrison, and Eisenhower.

Marines wearing new helmets

By the end of this year, Fleet Marine Force commands will receive 131,000 new combat helmets. The helmets, made of Kelvar, will replace the steel pots worn by the Marines since World War II.

Lighting the smoking lamp

Sea dogs who sailed the wooden ships endured hardships that sailors today never suffer. Cramped quarters, unpalatable food, bad lighting and boredom were hard facts of life. But perhaps a more frustrating problem was getting fire to kindle a cigar or pipe after a hard day's work.

Matches were scarce and unreliable, yet smoking contributed positively to the morale of the crew. Oil lamps were hung in the fo'c's'le and used as matches. The bo's'un's restricted smoking to certain times of the day. When smoking was allowed, the 'smoking lamps' were 'lit' and the men relaxed with their tobacco.

Fire was, and still is, the great enemy of ships at sea. The smoking lamp was centrally located for the convenience of all and was the only authorized light aboard. It was a practical way to keep open flames away from magazines and storage areas.

GYMS SHAPE UP

story by Tracy L. Tanner
photo by Cecil Stack

"In the past, scrubs and soldiers physically unable to perform their normal jobs operated the Army's gymnasiums," explained Sgt. 1st Class John Durkin of the Soldier Physical Fitness Center at Fort Benjamin Harrison, Ind. "These people presented terrible role models for soldiers using the gyms. Plus, they didn't have any expertise in managing an effective sports program."

Realizing these deficiencies, the Soldier Physical Fitness Center developed two courses for the Physical Activities Specialist (03C). A seven-week course for soldiers working as 03Cs, and an eight-week course for those entering the specialty.

Both courses combine classroom and hands-on training. Students study fitness center management and the correct planning procedures for organized sports activities.

They also learn cardio-pulmonary resuscitation (CPR), first-aid procedures for heart attacks, strokes, and broken bones. In addition, they complete training in swimming and lifesaving techniques.

A crucial aspect of the physical activities specialist's job is developing individual fitness programs. "When an overweight soldier comes to one of my gym specialists and says, 'I need to lose weight and pass my PT (physical training) test,' the 03C must be able to develop a safe, effective program for that individual," Durkin said. "We teach them nutrition, exercise prescription, and other fitness related topics, then explain how they're effectively combined and used."

Equally important for the Physical Activities Specialist is their ability to pass the Army Physical Readiness Test (APRT). "This is required before any student receives a graduation certificate," Durkin explain. "As physical activities specialists, these soldiers aid others in body shape-up. Personally, I wouldn't be motivated by a person who is 5-pounds overweight telling me how to trim down. I'm sure others feel the same way."

No longer will Army gymnasiums be operated by scrubs and soldiers unable to perform. Thanks to the Soldier Physical Fitness Center at Fort Harrison, the Army is turning out knowledgeable, physically fit, trainers. In the future, the only 'scrubs' found in Army gyms will be cleaning the floors after a dynamic night of intramural basketball.

Fire one! Fire two!

Story and photos
by Kay Lorenz

In a World War II-vintage movie, a man stands by a control board ready to fire a torpedo from its tube at an enemy ship or sub. "Fire one!" The man smashes the button. "Fire two!"

Again he stabs the button on the control panel. The next scene shows the torpedo speeding through the water toward the target. If it's on course, a big explosion follows. If it isn't, nothing but silence.

In the early days of torpedo warfare, success or failure depended solely on how the torpedo was aimed. Regardless of whether the torpedo was fired from a submarine, surface ship, or aircraft, if the aim wasn't 100 percent accurate, the mission failed.

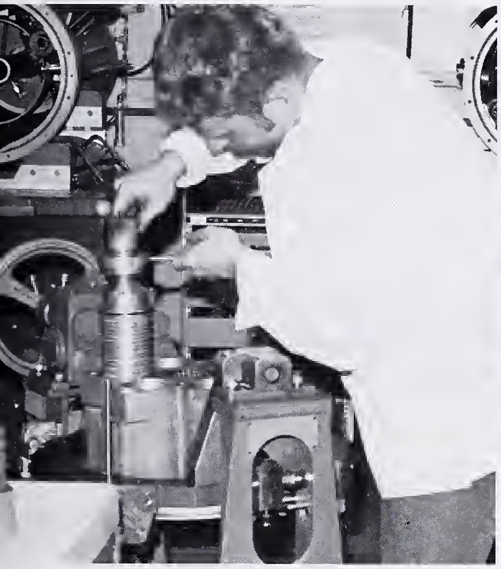
With today's torpedoes, which are actually guided missiles, the chances of failure are slim. They can "think" for themselves; speed up, slow down, change depth, detect what is and what isn't a decoy, and change course as needed.

This modern age complexity challenges today's torpedoman's mate to be better trained and far more exacting than his predecessors.

The operative word is accuracy. Torpedoman's mates must be thorough and uncompromising. They build, maintain, repair, overhaul and test torpedoes. They also perform scheduled maintenance on transmitters, receivers, depth control systems, propulsion batteries and exploder mechanisms. In addition, they insure safe storage of the torpedoes and maintain and repair their launching systems.

To accomplish these tasks requires a strong background in math, electronics and mechanical ability. After basic and advanced courses taught at Orlando Naval Air Station, Fla., torpedoman's mates gain a sound knowledge of the necessary hydraulic sciences and computer systems.

This knowledge, coupled with high personal reliability, puts the torpedoman's mate into the computer age. Along with the systems on which they work, torpedoman's mates have come a long way over their World War II predecessors.



Officer ca

by Tracy L. Tanner

Sundays mark the arrival of many a weary traveler to the Coast Guard Reserve Training Center in Yorktown, Va. The beauty of the rural area and the fresh cool breezes flowing from the James River escape the senses of these young men and women. Uppermost on their minds is the training they will soon receive. They have entered the Coast Guard's Officer Candidate School.

Although many have traveled hundreds of miles, their journey has just begun. Throughout the next 17 weeks, each will question, "Is it worth it?", "Can I make it?", or "Why me?"

They will be tried mentally and physically. Time will be their worst enemy, because, like so many things, there never seems to be enough. But, of the 30 to 35 officer candidates (OCs) attending the class, most will make it.

Officer Candidate training begins with a brief, but grueling, one-week indoctrination period. "Hell Week," as it is commonly known, resembles many of the services' boot camps. Discipline is the name of the game. These fresh-from-civilian-life men and women must learn the Coast Guard's dos and don'ts, and learn them quickly.

"We did a lot of push-ups that first week," said Officer Candidate Heather L. Campbell. "They were not handed out to humiliate us. When one of the instructors told me to do twenty push-ups, I knew it was because I did something wrong and I was being taught a lesson.

"Sure, my arms hurt," she continued. "And there were times when I thought I couldn't possibly do another, but I never felt humiliated. Plus, I knew the push-up part would end in a week. That's what really kept me going."

An abundance of information accompanies "Hell Week's" tough physical activities.

Remember the TV cartoon called "The Jetsons"? Each time George took his dog for a walk, he ended up going round and round the treadmill with no hope of anyone pushing the "off" button. That depicts many candidates' feelings during the first week. The schedule begins with reveille at 5:30 a.m. and ends with lights out at 10:30 p.m. Free time isn't even in the candidates' vocabulary.

"You learn to use your time wisely," Campbell said. "At first, it seemed I'd never accomplish everything the instructors required. Then I discovered I could never sit idle. I had to do "this or that" during the few extra minutes between classes. I learned it was all a matter of self-discipline."

The discipline instilled during the first week becomes an asset throughout the course. Although the push-ups stop, and the candidates get into the swing of things, the pressures continue.

Throughout the course each candidate faces evaluations by staff officers. Evaluations are based on aptitude data, demerit accumulation, staff observations and reports. The demerit system is rigid and has a direct effect on how much free time the candidates receive on weekends. It also determines whether or not they continue in the program. Significant demerit accumulation indicates a person's inability to adapt to a military regimen.

For eight weeks, the candidates study leadership techniques, and learn basic seamanship, small boat operations, firefighting and much more. "Each class builds on itself," explained Lt. Jay Hickman, head of the school's operations section. "They have a test each week. The candidates must stay on top of their studies. There is no time to fall behind."

At the end of the ninth week, candidates shift from student to instructor. They ensure their conduct, personal appearance, and rooms are exemplary so the junior candidates have model examples.

The last period culminates in a

Four Coast Guard officer candidates team up to extinguish a fire. Through officer training, instructors stress the importance of teamwork. (Photo by Tracy L. Tanner)

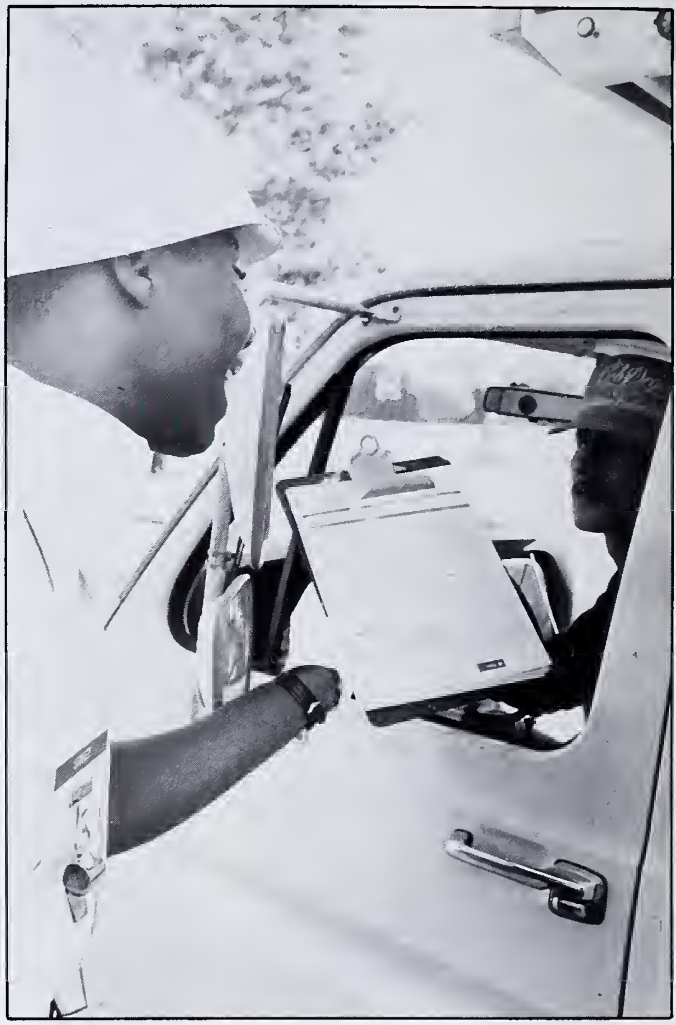
final test of all the candidates' knowledge. The class joins the crew of a high endurance Coast Guard cutter for an eight-day cruise. Unlike passengers on the Love Boat, candidates work, not relax. They stand watch, navigate the ship, practice damage control, and partake in maritime law enforcement missions. For many of the candidates, this is the most rewarding period.

With the completion of the cruise, comes the closing of another officer candidate class. Graduation day marks the end of one journey and the beginning of another for the newly commissioned officers. Some will become members of a headquarters or district staff; many will go afloat, or to an operational shore job. Others will go on to flight school at the Navy Training Center in Pensacola, Fla.

didate

Whatever their destination, the officers, previously civilians playing beat the clock, have tackled their goal head-on and won. The question that plagued their minds during the weeks behind has been answered. Yes, it was worth it. I'm an officer in the United States Coast Guard.

Ensign Heather Campbell gives the "thumbs up" indicating she's successfully completed the Officer Candidate School and is ready to begin the primary phase of flight training at the Naval Flight Training Center in Pensacola, Fla.



story and photos
by Tracy L. Tanner

(Above) Seaman Apprentice Willie Nelson, a gate guard at Master Jet Base, Oceana in Virginia Beach, Va., waves a car through the base's gate. (Right) Senior Airman Carlos Suarez, checks the documents of a commercial truck driver before allowing him to enter Langley Air Force Base, Hampton, Va. (Below) Marines at Marine Barracks, Norfolk, Va., undergo a scrupulous inspection prior to assuming their gate posts each day.

Guarding the Gates

In the military, one phrase seems to pass over everyone's lips at one time or another— "This job is what you make of it."

Whether assigned to a remote area of Turkey, or the tropical island of Hawaii, a person gets out of a job exactly what they put in.

To some, a job may seem trying and unworthy. The hours may be many and the weather inclement. But doing the job to the best of his or her ability, makes it a position to be proud of. Through hard work and dedication, they set standards for their successors to measure up to.

The position of gate guard requires a special person who has the attitude "It's what you make of it."

Despite the weather and abnormal working hours, gate guards take pride in protecting and defending the perimeters of their respective bases.

Not an easy job, gate guard. Standards set must remain firm, despite harrassment from patrons not meeting them.

Regulations require incoming vehicles display the Department of Defense bumper sticker. This sticker states the base's name, and expiration date. Gate guards check each sticker to ensure the vehicle is authorized on base. Those lacking a valid sticker are directed to the nearest visitor's center to obtain the proper pass.

The sticker's color code establishes officer or enlisted rank. The color code keeps guards on their toes, as military custom requires gate guards to render officers crisp salutes.

During the morning rush, gate guards not only keep on their toes, but actually jump. Senior Airman Carlos Suarez, a gate guard at Langley Air Force Base in Hampton, Va., described the morning rush hour traffic as fun. "Cars are lined up all the way down the road. It's a challenge to get them through as quickly as possible while making sure everyone's decal is in order," he said. "At Langley, we have a series of arm movements that we go through for each car. If it's an officer we add a salute. Waving cars by, one after the other, you really get a rhythm going and time flies. Before I know it, my watch is up and someone's here to relieve me."

Gate guards for the Air Force and Army are chosen from the ranks of the military or security police. Although the Army has incorporated civilian policemen at some bases, the Air Force's bases are all guarded by enlisted security policemen.

The Marine Corps, responsible for guarding the gates of their own bases and air stations as well as some Navy bases, choose their guards from the infantry ranks. The Navy and Coast Guard treat gate guards as a special duty that selected enlisted people serve 30 days at a time.

Common misconceptions have gate guards carrying unloaded weapons. On the contrary, Air Force, Army, and Marine guards are issued .45 caliber pistols and ten rounds. They are qualified to use the weapons, however, use of the weapons remains strictly controlled. Base police conduct an investigation each time a weapon is drawn, whether or not it's actually fired.

In most cases, the weapon acts simply as a deterrent. The guards have direct access to the base's police force. In the case of a gate crasher, the guard records a description of the car including its license number, then reports it.

Because of their high visibility, these men and women always project a sharp, professional appearance. Their shoes are highly polished, and their uniforms immaculate.

Their professional dealings with people can be equally important. Seaman Apprentice Willie Nelson, a gate guard at Master Jet Base, Oceana in Virginia Beach, Va., explained that sometimes people forget their military identification (I.D.) card. An I.D. card is required, in addition to a vehicle sticker, when entering installations after dark.

"People get upset when they have to return home and get their I.D. card. But, those are the rules, and it's my job to enforce them," Nelson said. "Regardless of how angry they get, I'm pleasant and express sympathy, but I don't let them enter."

On the other hand, the guard often receives the sympathy. Neither rain, nor snow, nor freezing cold can keep them from their post. "During the cold weather or rain, we see how much we are actually appreciated," Sgt. Joseph Hernandez, an Army gate guard stationed at Fort Monroe in Hampton, Va., said. "Some folks bring me a cup of coffee or hot chocolate. And believe me, it really hits the spot when the thermometer is tipping 10 degrees.

"Christmas is another story. Some of the wives bake us cookies and candy," he claimed. "It really makes me feel appreciated."

Just as being an aircraft pilot, or a tank commander isn't a job everyone can do, neither is gate guard. It takes dedication and determination to weather the rain, snow and ice, during all hours of the day and night, guarding a gate. But soldiers, sailors, airmen, Marines and Coast Guardsmen throughout the country do it and with pride. They know, "The job is what you make it."

Making motors hum

Story and photos
by Linda L. Mitchell

Airman 1st Class Andrew Meagher, a Pope Air Force Base, N.C., auto body mechanic, welds two pipes together to make a custom-made exhaust pipe.

Vehicles are great little inventions. They can provide transport for work, shopping or a leisurely Sunday drive.

A vehicle can be your best friend, or, if not cared for, your worst enemy. Costs for parts and labor are exorbitant. Because of this, the Air Force trains men and women to maintain their vehicles. These Air Force "moneysavers" are called general purpose vehicle mechanics.

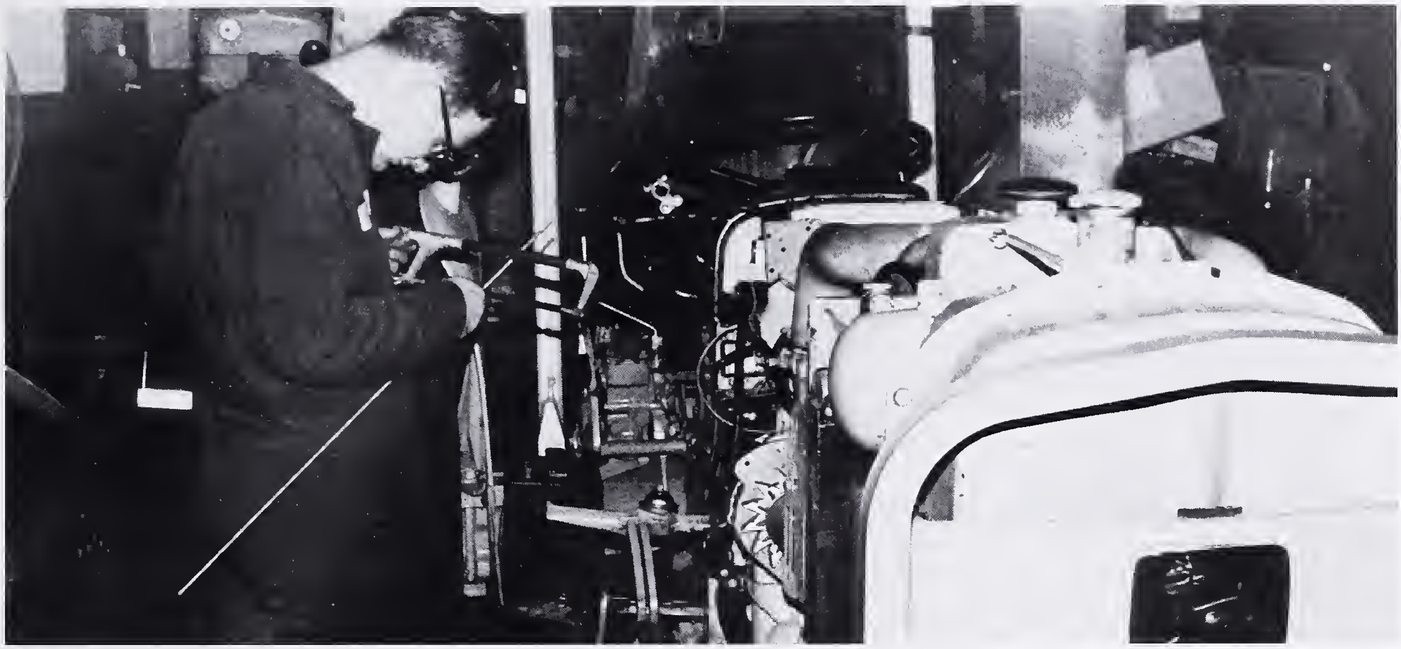
Grease under the fingernails is a fact of life for GPVMs. Daily vehicle assignments include trailers, semi-trucks, buses, jeeps, sedans, pickup trucks and ambulances. They perform all aspects of mechanical maintenance, from changing the oil to tearing down an engine. For them, repairing air conditioning units, carburetors and brake systems is nearly as common as filling the tank with gas.

GPVMs fix or replace electrical starters and generators; electronic ignition systems; diesel engines; automatic and manual transmissions; steering and front end suspensions.

In many instances they use diagnostic computers to troubleshoot a vehicle. This machine, which plugs into the vehicle and provides a readout of the vehicle's ailments, helps mechanics identify problems without resorting to the "process of elimination" method.

GPVM's learn their basic skills during a nine-week technical school at Chanute Air Force Base in Illinois.

"It helps to know the tools before going to the school," said Airman 1st Class Merlin Fligge, a general purpose vehicle mechanic at Pope Air Force Base in North Carolina. "Although the instructors cover the engine and its systems thoroughly, they don't always have time to explain each and every tool." He added that a knowledge of mathematics, drafting and electronics helps, too.



Senior Airman Richard Falkinburg, a general purpose vehicle mechanic at Langley Air Force Base, Va., performs engine maintenance on a John Deere farm tractor.

"We learned to use technical orders, which are step-by-step instruction manuals similar to civilian garage service manuals," Fligge said. "Then we learned the various engine systems and components. Finally at the end of that part of training we tore an engine down, then put it back together. If it worked after we rebuilt it, we passed."

While prior practical experience isn't necessary, it is helpful. Airman Doug Markle, a mechanic at Pope, took a bypass test after working with heavy equipment for three years. By passing the test, however, he feels he missed studying some systems with which he had no experience and missed learning to do things the Air Force way. "It's a challenge trying to catch up with everyone else on the job," he said.

Training continues long after graduation from technical school. Mechanics must complete a four-volume career development course (CDC) and participate in on-the-job training.

"There are many opportunities to attend advanced courses," Markle said. "I've already completed a course on steering and brakes. But there are others I want to take advantage of, like the courses on diesel engines, automatic transmissions, air conditioning units, diagnostic tests and AC/DC systems."

"When I graduated from high school in 1982, I remember thinking, 'no more homework and no more studying,'" Fligge said. "Now, any chance I get, I apply for classes. The more I know, the better chance I have of being promoted.

"And more promotions mean more money," he added with a laugh.

Where GPVMs repair everything under the hood, auto body mechanics fix all the physical scars. "After 18 weeks of technical school training at Aberdeen Proving Grounds, Md., we know the basics of welding, metal bending, glass cutting and upholstery work," said Airman 1st Class Andrew Meagher, an auto body mechanic at Pope.

A daily schedule might have Meagher cutting glass for a replacement windshield, or welding pieces of pipe together to make a custom-fit exhaust pipe. Auto body mechanics remove dents marring otherwise serviceable vehicles. They also give vehicles face-lifting paint jobs and repair torn upholstery.

A separate career field encompasses working on fire trucks, fuel trucks and other special purpose vehicles. Individuals interested in working on special purpose vehicles can enlist in the field or become general purpose mechanics first, then cross-train at some point during their career.

This mechanical knowledge is never wasted. It can be used to repair the family car, a friend's truck or to get a job in the civilian world. "When I started looking into the civilian market for job opportunities, I found that to get a good job as a mechanic, I had to take a state certification test," Fligge said. "In this instance, my Air Force training will help me in two ways. First of all, the test should be fairly easy to pass because of my training and experience. Secondly, I can take the test while I'm in the Air Force, still drawing a good pay check. Then, if or when I decide to leave the Air Force, my state certification will help me get a job at better-than-starting wages," he added.

Meanwhile, Meagher, Fligge, Markle and their peers assure that Air Force vehicles last above and beyond the call of duty. By adding a dab of paint here, or turning just the right screw there, auto body mechanics keep the vehicles looking good while the GPVMs keep the motors hum-m-ming.

'Ello, mate! Welcome to England!

**Story and photos
by Linda L. Mitchell**

England is an island of contrasts. She is massive industrial complexes and small rural farms. She is large cities teeming with activity, and thatched-roof cottages in tiny, quiet villages.

From the hills in the north and the green quiet forests of Nottingham to the blue-green seas of Cornwall in the south, England is contrasts.

England is also "home" to more than 30,000 U.S. Air Force, Navy, Marines and Army men and women. They are assigned on two- to four-year tours while working with British and other allied forces in support of NATO operations in Western Europe.

Two modes of river transportation float lazily past Holy Trinity Church in Stratford-upon-Avon. Beneath the nave of this church are buried William Shakespeare, his wife Anne, their daughter and son-in-law.

The island is the seat of government of the United Kingdom, also consisting of Scotland, Wales and Northern Ireland. Within its borders, the Air Force operates 14 tactical and main operating bases and two standby deployment bases, kept in readiness for contingency or wartime use. The Navy's European headquarters is in London, with bases scattered throughout the U.K. The Army has bases and other operations both in Wales and England.

Air Force missions include tactical fighter and reconnaissance, close air support, and air rescue and recovery. The Navy and Marines assist NATO forces in above- and underwater operations, and the Marines provide Embassy security, while the Army supports ground activities.

All this makes England the working experience of a lifetime, plus the added attraction of seeing a country filled with unusual and entertaining events.

Weather plays an important part when living in jolly old England. It's usually cool to cold, even in summer, and it rains—a lot. Thick fog, sleet and snow are abundant in late fall, winter and early spring. But even this doesn't keep the avid Briton from his fun!

Entertainment abounds in England. Plays, musicals and concerts to fit every taste and pocketbook make a weekend in London memorable. Popular American country and western, rock and classical artists perform throughout the year in various cities.

England dishes out sports to satisfy the appetites of most fans. Rugby, soccer, golf, snooker (a form of pool), horse racing, boxing and darts are very popular with both Britons and "Yanks." But American football, basketball and ice hockey are sneaking in. On base recreation usually includes inter-base and intramural forms of these sports and more.

Being stationed in England is different in many ways. The foremost is the way they drive—on the "wrong" side of the road. Viewing or taking part in historical and native events is also interesting. These include the Gathering of the Clans, and the Edinburgh Military Tattoo (a very "pomp-and-circumstance" military parade and show of strength) in Scotland; plus jousting tournaments and banquets in or near medieval-era castles throughout the country.

The best and least expensive ways to get from place to place are trains and coaches (buses). In London, the easiest and most popular way to travel is the subway, a.k.a. the underground or simply the "tube." Service is fast, frequent, and transports passengers to Westminster Cathedral, the Tower of London, Oxford and Piccadilly Circuses (shopping districts, not the big-top events!) and other historical and interesting places in the five Boroughs of London.

The famous red double decker buses are exciting. Riding in the top deck over the driver affords passengers a "bird's eye" view of everything.

Believe it or not, there's even a "language barrier" of sorts. Most areas of the country (called "shires," as in Hampshire) have different accents and local words. Just as southerners and northerners can be distinguished from each other in the states, so can natives of Lancastershire, London, Northumberland and Cornwall.

Words that newly-arrived Americans quickly add to their vocabulary include "pub" or "the local" (the neighborhood drinking establishment); "boot" (trunk of a car); "lift" (elevator); "pillar box" (mail box); and "petrol" (gasoline). Don't be shocked if someone asks you for a "fag," he's merely asking for a cigarette. And girls, if a man says he'd like to "knock you up," please don't slap his face—he just told you he'll knock on your door to pick you up for a date!

Then there's "Taa and cheerio, luv"—a friendly Briton's way of saying "Thank you and goodbye," as American military visitors "take the high road" to an exciting stay in England.

This half-timbered house is the birthplace of William Shakespeare. It is one of many historical and entertaining attractions in Stratford-upon-Avon, which is also the home of the Royal Shakespeare Theatre Company.

Lights, Camera, ACTION!

story and photos
by Tracy L. Tanner

The film rolls as another Army motion picture production begins. The possibilities are endless. It may be another 'Be All You Can Be' recruiting commercial, or a fast breaking story for an Armed Forces Network evening news program.

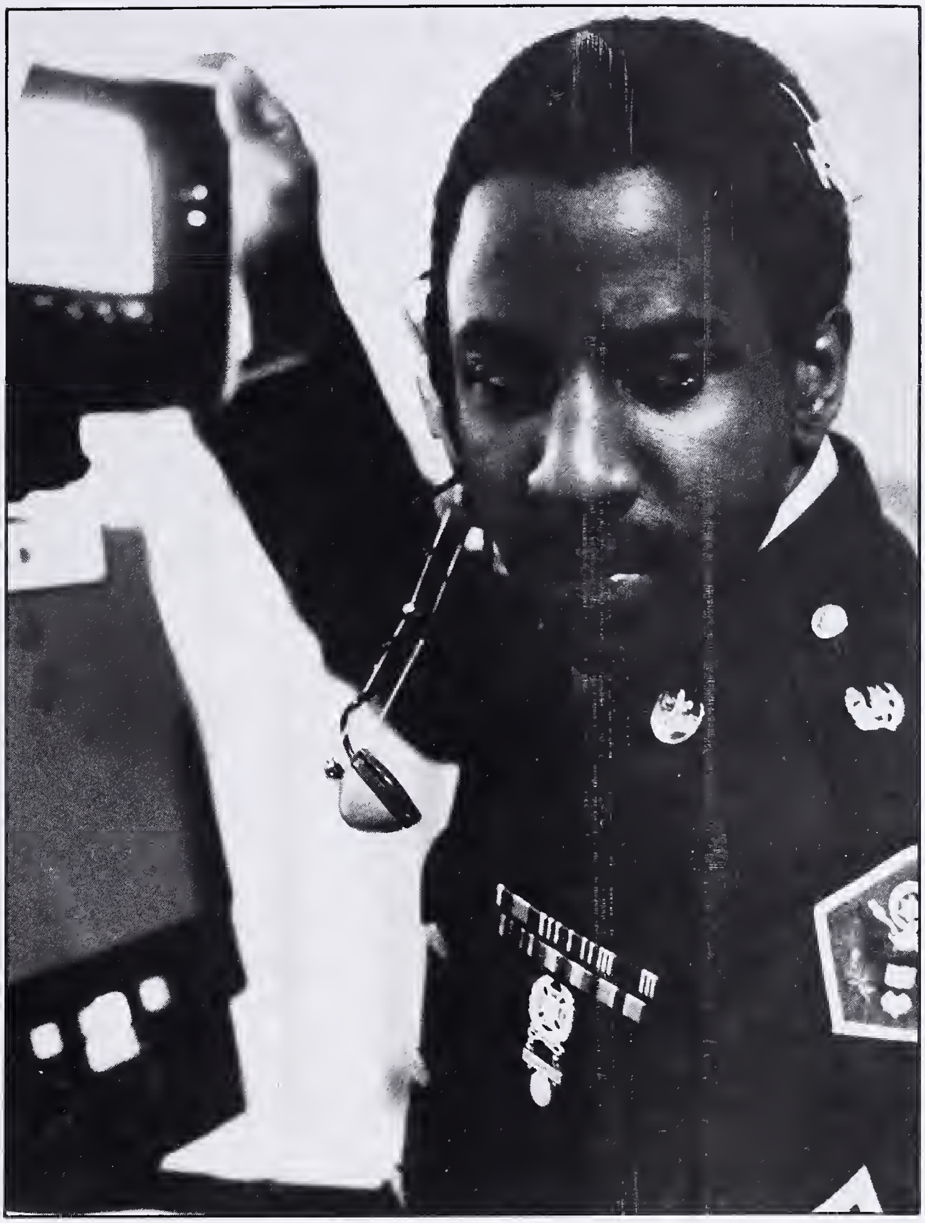
Whatever the assignment, the person responsible for documenting the event on film, then preparing it for airing is an Army motion picture specialist.

Army motion picture specialists train alongside Air Force personnel while attending the Radio and Television Production Course at Lowry Air Force Base, Colo. The 14-week course builds students' knowledge step-by-step, from basic camera operations to full-scale movie productions.

"We use an additive teaching system," explained Tech Sgt. Lyndal Glaser, a Radio and Television Production Course instructor. "Each assignment relies on newly introduced material, as well as information covered in previous lessons. It's a repetitious process. Students repeat what they've learned until it becomes second nature. We find this method extremely effective."

The course begins with the fundamentals of still photography. Prior to filming with motion picture camera, students learn and practice focusing, using light meters, photo composition, and film development with the 35 mm, single-reflex, camera.

(Left) Staff Sgt. Freddy Davis, an Army Audio Visual Specialist, uses the switch and audio board to add special effects to a production. (Right) After checking a scene through his camera, Staff Sgt. Davis tells the floor crew he needs more lighting.



With the basic knowledge of still photography under their belts, introduction to the 16 mm motion picture camera seems less foreign. By the time students complete the block of instruction on the 16 mm, they have a solid understanding of motion picture camera mechanics.

Next, students learn the techniques and procedures used during a motion picture production. They study the use of filters and lines in creating different moods; screen direction; and cutting and splicing, or editing film. Before advancing to the next phase, each student turns in a finished product depicting a short story.

The third block of instruction touches on the technical aspects of the specialty. Students study production studio lighting, and overlapping and matching action. They also master synchronizing audio and visual tracks.

"At this point, students produce 'Hollywood' type productions," Glazer said. "They know everything needed to produce a film or documentary suitable for airing."

Instructors test students' knowledge, creativity, and teamwork ability in block four. Student teams find news and sports events, film them, then prepare them for viewing. The final product is a mixture of all the specialists' work.

"The final block is the pass or fail portion of the course," Glaser explained. "The students combine all their skills to make a movie. They write a script, shoot photos, record sounds, then edit and produce a film.

"We've had some dynamite productions come out of this school," he added.

Completing the movie also completes the course. But, according to Glaser, this in no way completes the motion picture specialist's training.

"Once in the field, motion picture specialists will have many opportunities to learn and try new techniques," Glaser said. "One of the most important attributes a motion picture specialist has is imagination. If they didn't have imagination, we'd still be watching movies as they were filmed 20 years ago."

A motion picture specialist can look forward to an exciting, rewarding career. With the responsibility of documenting the Army's activities, they'll have the opportunity to cover field exercises and other newsworthy events, plus meet and film celebrities.

Staff Sgt. Freddy Davis, a motion picture specialist stationed in Washington, D.C. enjoys his job thoroughly. "Working at the Pentagon, I've met and filmed some pretty important people, like the Secretary of the Army. Working with people that high in the chain of command can be nerve wracking," he continued. "But after a few minutes the training replaces the butterflies. I do the job the way I was taught and everything flows."

And on the command, ACTION, another Army motion picture specialist records history.

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Torpedoman's Mates — Page 12

> No big modern war has been won without preponderant sea power; and conversely, very few rebellions of maritime provinces have succeeded without acquiring sea power.
>
> SAMUEL ELIOT MORISON

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